

ABSTRACT

In a solvent extraction process for preparing microspheres of a biodegradable polymer, the improvement comprising: preparing a homogenized antigen-sucrose matrix and adding a solvent to the sucrose-antigen matrix to form a solution; preparing a solution of a biodegradable polymer by adding a solvent to the polymer; adding the biodegradable polymer solution to the antigen-sucrose solution; adding an oil to the polymer-sucrose-antigen solution to form an emulsion having a controlled viscosity that corresponds to a predetermined average particle size of distributions of microspheres of biodegradable polymers; centrifuging the emulsion of controlled viscosity and removing the supernatant to obtain microspheres of a predetermined range of particle size distributions *of from about 0.5 to about 7.0 micrometers*

An immunostimulating composition comprising an encapsulating-microsphere of the biodegradable polymer has an average particle size distribution such that the majority of the microspheres will be taken up by the villous epithelium section of the intestines of a mammalian subject when administered as a vaccine against diseases caused by enteropathogenic organisms.